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Report of the Council of the United Nations University for 1992

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PREAMBLE

1. In contrast to previous annual reports on the work of the United Nations University (UNU), which primarily reviewed programmes and activities, the 1992 report will endeavour to convey more forcefully a sense of the direction that the University is pursuing. A new threshold has been reached, as will be mentioned later, from which a better profile of the UNU as a unique university, and its uniqueness within the family of United Nations organizations, are presented.

2. During 1992, the Council of the University did not meet as a whole, although a meeting of the Bureau of the Council was held in June 1992 to take up several matters of concern to the Council. The thirty-ninth session of the Council took place during 15-19 February 1993 owing to the move of the University centre to the new headquarters building in July 1992 and in order that the Council session might coincide with the official inauguration of the building. The Secretary-General of the United Nations, Mr. Boutros Boutros-Ghali, and the Director-General of the United Nations Educational, Scientific and Cultural Organization (UNESCO), Dr. Federico Mayor, officiated at the opening ceremony and participated in the international symposium on the "Role of the United Nations in the twenty-first century" held during the session. In order to combine the planned December 1992 session with the inauguration ceremony, and in consultation with the United Nations Secretariat (because the preparation of the Council's annual report for 1992 would have to be delayed until early 1993), the thirty-ninth session of the Council was postponed to mid-February 1993. Therefore, while the report covers activities carried out in 1992, some of the Council's activities include those that occurred during the thirty-ninth session. The agenda for the thirty-ninth session of the Council included items related to the academic activities, as well as the finances and management, of the University. For one half of the 24 members of the Council, its thirty-ninth session was the occasion for their first meeting as Council members.

I. OVERVIEW

3. The 1992 annual report seeks to present the activities of the United Nations University in an integrated problem-oriented manner, rather than provide a description of discrete research projects or initiatives. While such an approach of necessity omits certain details and projects, it allows more discussion concerning the convergence of the University's activities within particular areas. The report further seeks to integrate into a whole the various academic initiatives undertaken within the international network of research and training centres and programmes that make up the totality of the University. This is consistent with the institution's underlying philosophy of seeing the modern world's problems in the round, and addressing them through mobilization of intellectual resources from many disciplines and cultures.

4. The report also attempts to place the ongoing activities of the University within the directions and flows of its work since it commenced operations in 1975. In this way, how projects reinforce each other over time can be grasped.

This approach also provides further clear-cut evidence of how the past can always help illuminate the future.

5. There have been significant trends in the University's work during its short 17-year history. While it might be unusual for any university to need to measure its own performance within such a short time-frame, it is incumbent on the United Nations University as an international community of scholars and a part of the United Nations system to ensure that its work remains relevant and insightful, particularly in addressing those concerns that do not easily fit within traditional disciplines and fields of study.

II. FOCAL POINT OF THE UNITED NATIONS UNIVERSITY: GLOBAL CHANGE AND GLOBAL RESPONSIBILITIES

6. The very nature of the United Nations University demands that it engage in a continuous quest for identity within the context of its mandate. The need for such a search derives from the unique position of the University within the United Nations system and from its mandate to carry out research, postgraduate training and dissemination of knowledge. That need also relates to the position of the University within the international community of scholars, namely, to the fact that its academic activities are structured differently from those of traditional universities. Furthermore, the University's mandate calls for the devoting of its work to research on pressing global problems that are in a state of continuous change.

7. Within this context, the second medium-term perspective (1990-1995) of the UNU, "Global change and global responsibilities", presents the basic perspectives from which the institution is to pursue its work during the decade of the 1990s. Specifically, it articulates how the University carries out its mandate to address pressing global problems as they translate into many differing manifestations of the human condition ranging from the most basic survival needs to the assurance of welfare for all. The world today is buffeted by forces of constant change exacerbating persisting problems affecting humankind and fostering the emergence of others. This has given rise to the sense of a common responsibility for seeking collective solutions.

8. It can be difficult to anticipate the directions and consequences of rapid change because they can be either beneficial or detrimental. One way to measure those directions and consequences is within the context of the principles of the Charter of the United Nations. Concern about change can be most acute when change tends towards a worsening of the human condition or a bringing about of improvements that favour only a fraction of the earth's population. Upstream prospection is needed for the more subtle consequences of change; indeed, many changes are so subtle that upstream prospection is required to discern their ultimate, real impact. Concern over both acute and subtle changes is accompanied by a perception of the complexity and increasingly accelerated pace of change.

9. Under the overarching perspective of "Global change and global responsibilities", the University in 1992 made its own modest contribution to understanding the enormous changes that are now under way and the

responsibilities that they pose. That contribution, seen within four different theme areas, is examined in the present report.

10. The first area, that of improving the management of interdependence, is the most far-reaching because it addresses all aspects of the human condition that require multilateral action and cooperation to meet global responsibilities. The second area focuses on the condition of human beings and the threat posed in their natural habitat by the degradation of the environment through human action, which also generates disparities in standards of living. Science and technology, the theme of the third area, is considered a very important tool for addressing the root causes of poverty and hunger, as well as for rejuvenating and protecting the environment while at the same time fostering sustainable development. The fourth area, that of hunger and poverty, focuses on the human condition in its most deprived state, so apparent - and in its most cruel form - in many parts of the world, with survival threatened by violence, famine or lack of access to resources and technology.

11. Awareness of the fact that this report is built on the above-mentioned four theme areas helps in understanding the unique position of the United Nations University, as both an academic institution - an institution of higher learning, albeit a globally decentralized and specialized one - and an autonomous organ of the United Nations system. Focused upon the University, then, are two different and possibly conflicting sets of expectations. On the one hand, the University tries to understand the nature of the complex, interrelated changes affecting the human condition, and this requires scholarly work of the highest quality. On the other hand, the University endeavours to address issues of global importance through a problem-solving approach so as to contribute to the efforts of the United Nations system in solving the problems affecting humankind. Scholarly work often demands longer-term research, and theoretical approaches that are less tangible and concrete. At the same time, the University is expected to undertake more specific policy-oriented research efforts so that the results can be immediately applied to the problems faced by individual Governments and development assistance organizations over the short term. To ensure its relevance and justify its autonomy, the University, as a voluntarily funded organization, is expected to produce results that take account of its comparative advantage in focusing its efforts and resources on longer-term concerns and on the policy-oriented problems that can often have far broader outreach and shorter-term impact.

12. In preparing this annual report, the University has sought to highlight the far-reaching consequences of human action and the responsibilities required to ameliorate the human condition. This has not been simple because of the global, regional and local dimensions of such consequences of action and responsibilities. This report also draws attention to the need for a higher level of awareness and understanding of global problems as seen from different levels of governance and from different cultural, ethnic and regional points of view, and highlights the need for different, multifaceted approaches (through research, capacity-building, awareness, public education, negotiation) to those complex interrelated problems.

13. Capacity-building, which is the main thrust of the University's fellowship and training programme, is carried out using several different modalities. The University is providing an increasing number of training opportunities at its

research and training centres as well as at UNU headquarters in Tokyo. This is helping to establish closer linkage between research and training; it is also providing greater opportunities to scholars and scientists, particularly from developing countries, to participate in UNU research. The University is also undertaking, jointly with universities and research institutions, special training programmes of various lengths.

14. The reporting on the four theme areas - multilateralism, the environment, science and technology, and hunger and poverty - is by no means exhaustive, nor does it reflect the total breadth of the University's efforts and its research, training and dissemination activities covered in six areas of work. What follows, then, is a summary of expected outcomes and actual findings of the UNU's programme of work.

III. WORK OF THE UNIVERSITY: ISSUES AND CHALLENGES

A. Multilateralism: the management of interdependence

15. With the ending of the era of bipolar confrontation, the concept of multilateralism is re-emerging with renewed vigour. Presented as involving different approaches, such as interdependency, global governance and environmental security, the concept now reflects the perception that world-wide problems, such as foreign debt, environmental abuse, hunger and famine, and ethnic violence, call for strategies that lead to collective action. To interject such new awareness and concepts into legal mechanisms and institutional management instruments, however, has proven to be a difficult task. Consequently, the United Nations University has addressed multilateralism from two viewpoints: as a perspective and as a theme of study.

16. As a perspective, multilateralism indicates direction, that is, it offers a cutting-across methodology, in the addressing of global issues in the areas of environment, the global economy, science and technology, and population growth and human welfare. Consequently, from the planning stage of a research programme to the final destination of its results, it serves as a kind of guiding beacon for the direction of research.

17. As a theme of study, multilateralism embraces a vast agenda from which the UNU has chosen certain theoretical and policy-oriented topics as appropriate subjects for research and training. Building on the knowledge it has accumulated over the years, the University is studying issues that have become shared concerns for all nations: ethnic conflicts; the possible proliferation of arms and weapons of mass destruction and their delivery systems; transnational pollution and environmental degradation; population growth and international flows of refugees and migrants; and the future role of the United Nations.

Conceptual approaches

18. In 1992, the University continued to build on a tradition of years of work on issues such as inter-ethnic coexistence, the peaceful solution of conflicts, disarmament and security, human values and culture, economic development, and the impacts of economic and geopolitical blocs on a regional and global scale.

The characteristics of these problems are such that international relations need to be approached from the vantage point both of philosophical foundations and of the necessary mechanisms for achieving an international order, including in particular the instrument of the United Nations itself.

19. Out of these theoretical studies, a master programme, Multilateralism and the United Nations system (MUNS), has evolved. Initiated in 1990, MUNS has been designed to grasp the interactive relationship between two dynamics: (a) the changing structure of the world order and (b) the restructuring processes going on within international organizations. The underlying assumption of the programme is that the world order establishes the framework that conditions the kind of multilateralism that is possible; multilateralism, in turn, can influence the emerging shape of the world order.

20. It seems obvious that in order to achieve collective participation in the solution of global problems, the perceptions, values, culture and thinking of the people are the elements necessary to formulate policies that will lead to collective action. It is thus a fundamental requirement that scholars, policy makers and government planners engaged in designing new multilateral strategies understand those elements.

21. Following this logic, the UNU has been conducting a state-of-the-art survey aimed at enhancing knowledge about those perspectives on multilateralism that are found outside the so-called mainstream literature, mostly in English only and published in the United States of America. That survey is reviewing literatures published in other parts of the world and in other languages, that are now largely ignored in the mainstream literature. When completed, the compilation will provide an intellectual framework reflecting a diversity of perspectives on multilateralism in world scholarship that goes beyond what is available in English.

22. With a more conceptual approach, the University is studying the various "Theoretical perspectives on multilateralism and images of the world" that presently exist. These studies are intended to provide a comparison of intellectual approaches to multilateralism in the social and human disciplines; they will also seek to interpret and analyse the differing images of the world order that have arisen from different traditions of civilizations and different value systems.

23. For instance, the concepts of both solidarity and antagonism are deeply rooted in the differing and often competing world-views of different civilizations. In considering global strategies, it is important to develop some kind of balance between the differences among cultures and the universality of human values in order to find a common basis for coexistence and mutual enrichment of cultures. To achieve this and help pave the way for necessary multilateral action, it may be necessary to achieve an anthropological immersion in the spirit and soul of human communities for the purpose of shedding light on the basic imperatives for building a global consensus on issues such as the welfare of the world population and the maintenance of the biosphere.

24. The University is trying to understand, from the viewpoint of sociology and political science, the complex interactions between the United Nations system and individual nations within the framework of multilateralism. The workings of

current structures and processes of multilateralism in relationship to changes in social and political forces at the local and national levels, and how those structures and processes react to pressures exerted at the level of the world political and economic order, are being examined in a project on "Changing state/society perspectives on the United Nations system". The study has been examining the complex interworkings among changes driven by domestic social and political forces, the pressures exerted at the level of the world political and economic order and the resultant implications for the processes of multilateralism. Comparative studies are analysing the significance of the policies of individual States for the emerging world order and, conversely, the impact of that new order on local politics and activities within nations.

25. For example, the gaining of an insider's understanding of the true national interests of powerful States and how those interests might affect their attitude on multilateralism, or of how the perceptions of smaller nations might diverge from those of stronger ones regarding their role in the United Nations system and other international organizations, seems highly relevant. Equally relevant are the views and perceptions of regional groupings vis-à-vis the United Nations system.

26. At a higher level of aggregation, in a study focusing on global structural change, the UNU has been pursuing an analysis of the process of geopolitical transformation in the modern world and the institutionalization of the new international norms that have been generated by the various forces at play. The work has focused on the nature of current geopolitical change and the tendencies towards both macro- and micro-regionalism.

27. The relevant issues being looked at here are the roles of the State in the inter-State system, and the internationalization of the State. Focus is on the role of emerging global élites; the impact of migration and the restructuring of production, which are changing the lines of social cleavage; new definitions of identity; the impact of global communications on social attitudes and practices; and the democratization of social movements. The development of a better conceptual framework for understanding structural changes in relation to the development of multilateralism is the expected outcome of the study. Discussions held so far have focused on implications for international organizations and multilateralism for the restructuring of global society.

28. These studies have not, of course, covered the full gamut of fundamental issues concerning multilateralism. Other important theoretical concepts were only touched upon. For example, the question of national sovereignty was discussed within the context of global governance in a scholarly meeting at Yokohama, Japan, and at Dartmouth College, United States of America (box 1). The topics remain in the UNU research agenda, and further work is expected to be carried out within the University and in collaboration with other institutions.

BOX 1

Governance and world order

Following individual research in various universities around the world and a series of meetings, the University convened two international conferences to examine issues of governance in future society.

The first conference was held at Meiji Gakuin University, in Yokohama, Japan, in March 1992 to explore the issue of "The changing world order and the United Nations system". The emerging order was taken to be the new global configuration currently taking shape as a result of interaction among the broad forces at work in the modern world, namely, the globalization of capitalism, the internationalization of the State, the universalization of nationalism and the globalization of democracy. The scholars drew on the normative issues arising from the manner in which those forces interacted particularly with respect to the relationships and contradictions between capitalism and democracy. The basic challenge, morally and operationally, is how to bring a globalized economy under democratic control and ensure transnational economic justice and equity. The future of multilateralism and, ultimately, of international organizations is intimately caught up in this dilemma.

At the second conference, organized in cooperation with Dartmouth College (United States), convened in May 1992, the University examined the political, legal and humanitarian issues of intervention and the consequences of such intervention for the principle of sovereignty in international society. The conference, which had as its keynote speaker Sadako Ogata, United Nations High Commissioner of the Office of the United Nations High Commissioner for Refugees, brought together officials from intergovernmental and non-governmental organizations who had been responsible for providing humanitarian assistance and protection against human rights violation, and scholars who had been concerned with the implications of intervention for international society. It became evident that the question of international intervention was currently relevant not only in the area of humanitarian assistance, but also in other areas in which there was a collective interest and, perhaps, a common set of values: human rights, protection of the global environment, and control of military weapons of mass destruction. Participants considered whether the increase in international intervention had changed the fundamental relationship between international society and Member States or whether States remained the ultimate source of authority in dealing with issues affecting the world order.

Policy-oriented approaches

29. Some important contributions in 1992 were made towards the practice of multilateralism in the area of global governance, multilateral actions and the future of the United Nations. From a long list of pressing global problems, the UNU selected those in addressing which it had a comparative advantage. Some of those problems, such as peace-keeping operations, peace building and preventive diplomacy, were among the most urgent concerns in the United Nations agenda.

30. This was also the basic approach in designing a plan of action for the implementing of academic initiatives during the three-year period from 1992 to 1995. Within the framework of UNU studies on the management of interdependence, various projects were initiated in 1992 and planned for implementation through 1995. Those projects are focused on three complementary facets of the management of interdependence.

31. The first facet covers the future structures and institutions of the evolving international order, in particular the part to be played in multilateral action by the United Nations system. The effort builds on existing proposals for reform of the United Nations. One of these is the Stockholm initiative calling for a review of the functions of the United Nations system in a changing world, particularly its capacity to cope with questions of peace, development, population and environment. An important question, for example, concerns what role the United Nations is to play as an international distant early warning mechanism for emerging problems or in preventive diplomacy initiatives.

32. A series of studies have been conducted, including an evaluation of the United Nations system, a critical analysis of various proposals for its reform and an identification of likely interactive relations between the United Nations system and the community of nations in the future. Recommendations will be made on the structural and functional reforms that seem to be required for an effective United Nations system for the twenty-first century.

33. The initial focus of the second facet is peace-keeping operations. The study is analysing the emerging requirements for world peace and security in the light of the heightened need for such operations. Of particular interest is the assessment of the impact and effectiveness to date of humanitarian missions, with a view to improving their management in the future. Particular attention is being given to the question of expanding the function of a mission to include national reconstruction, an issue that has arisen, for example, with respect to the United Nations forces exercising peacemaking functions.

34. These topics are being studied through case-studies, particularly of recent missions, by an international research group made up of scholars, experts and United Nations officials with firsthand experiences in peace-keeping duties. A first encounter of scholars was held in July 1992 at Kyoto as part of an International Peace Research Association general conference on peacemaking and peace-keeping.

35. The third facet takes up multilateral actions from the viewpoint of economics, official development assistance (ODA) and technical aid efforts. An evaluation is being made of the effectiveness of various types of bilateral and

multilateral aid programmes, and of modes of implementation from the viewpoint of both donors and recipients. The study is seeking a better understanding of what it is actually that makes official development assistance (ODA) programmes, both multilateral and bilateral, succeed or fail. An expected result will be the development of comprehensive guidelines for more effective ODA programmes and their better management. Research and training for technical assistance personnel will be conducted by both scholars and officers from ODA agencies.

BOX 2

Multilateralism: the dialogue between scholars and policy makers

A meeting in April 1992 in Geneva explored the role of the international scholarly community in strengthening multilateral action. Some 20 eminent scholars and scientists, and top-ranking United Nations officials attended, including a representative of the Secretary-General. Bringing authors of some of the well-known United Nations reform proposals together with experts in the management of complex organizations, the meeting reviewed the global trends of transformation, the role to be played by multilateral organizations, and the tasks and challenges in particular for the United Nations in fashioning new strategies to cope with the changing world.

In discussing wider cooperation between the United Nations and the international scholarly community in addressing global problems, the University, as a major research institution within the United Nations system, was seen as having a special role in bridging the gap between the research and policy-making communities.

The underlying purpose of the exercise was to attempt to enhance the dialogue between scholars and policy makers within the framework of the United Nations system, since it was recognized that the work of scholars should be utilized by policy makers and that policy makers should also help guide the thinking of scholars. The exercise envisioned (although realization of such a vision would be an ambitious endeavour) the UNU as an important two-way avenue, outside of national mechanisms, for communication and dialogue between the world-wide community of scholars and policy makers. Another intention was to establish appropriate mechanisms for improved dissemination of UNU research results in those United Nations bodies where Governments formulated policy and made decisions.

The interest and importance of fostering such a dialogue was widely recognized; the methodology and the setting for such an endeavour, however, still need to be worked out.

B. The environment: protecting the natural habitat

36. The last several decades have seen the subject of the environment move to the forefront of the global agenda as Governments, politicians, journalists, social action groups and a broad spectrum of scholars and ordinary citizens demonstrate more actively increasing concern about problems linked to that subject. In addition, it has become more apparent that environmental problems are rooted in a complex interlinking of social, economic, technological and cultural forces.

37. This heightened awareness of the degradation being afflicted upon the physical environmental is, of course, a change for the better. Perhaps the clearest manifestation of rising concern was the United Nations Conference on the Environment and Development - the Earth Summit held in Rio de Janeiro in June 1992. It was the first time in the century that world leadership gathered at a summit meeting to discuss a subject other than war or economics.

38. The threat to the future habitability of the globe, clearly one of the more far-reaching consequences of the unprecedented transformation affecting the world, has been a focus of study for the United Nations University for a number of years, as mandated in the Charter of the University, which (in art. I, para. 3) states that the research programmes of the institutions of the University shall include, among other subjects, the environment and the proper use of resources. The second medium-term perspective then clearly places environment squarely in the development problématique, as evidenced in the following statement: "The nature and direction of human striving for social and material progress is bringing about marked changes in the systems that support life on Earth".

39. The United Nations University began to recognize some years ago that the scale of environmental problems over the past few decades has broadened dramatically, moving from localized disruptions to long-term and potentially catastrophic global-level changes, such as the appearance of a hole in the Earth's ozone layer, the threat of global warming, the loss of genetic diversity, and the acceleration of soil erosion and deforestation. The University also recognized that the prevailing forms of social, economic and technological development that had contributed to those changes must somehow (and urgently) be made more environmentally sustainable. Another realization concerned the increasingly critical nexus of environmental and economic issues that were involved and the desperate need for a new, coherent philosophical approach to attacking these immediate and pressing problems.

40. With increased awareness as its starting-point, and remaining highly conscious of its limited capacities in an arena that already counted many academic and international bodies with vast resources, the UNU formulated its environmental activities so as to best take advantage of its intellectual strength vis-à-vis international networks of scientists and scholars collaborating across disciplinary and cultural boundaries. Particular attention is being paid to questions that demand a diversity of academic perspectives, such as those of the linkages between environment and population and the common ground shared by agronomy and biochemistry.

41. Most of these activities, which have been concentrated under the general heading of "Sustaining global life-support systems" have two main focuses:

(a) To respond to the report of the World Commission on Environment and Development (the Brundtland Report) by emphasizing the importance of attaining local and regional ecological sustainability through appropriate environmental and resource management;

(b) To increase awareness of the need for research and for the multilateral actions required to understand and cope with global environmental change.

42. The initial work has two main focuses: environmental and resource management: local and regional sustainability, and global environmental change and multilateral action. Some of the activities draw on past UNU activities, while other work is forging ahead in new directions. An important part of the work deals with specific problems, both current and emerging, that are of particular interest to the United Nations.

43. The remaining environmental studies come under the UNU priority heading of "The global economy". They focus on formulating a global economic theory that takes fully into account the many types of value represented by the world's biological and geophysical resources and calls for the developing of better tools of accounting and economic analysis to measure the environmental impact of investment decisions at the macroeconomic level.

44. In its work on environment, the University intends to make modest, but meaningful, contributions to the environmental agenda of the United Nations by bringing academic and scholarly viewpoints to bear on policy and practical decisions. The descriptions that follow are indications of how research, training and dissemination on important environmental questions have contributed over the past year to fulfilling goals embodied in the overarching theme of the second medium-term perspective, "Global change and global responsibilities".

45. These efforts also show how work in this broad and important area is invariably linked to that in other areas affecting the complicated mosaic of the human condition.

Managing the environment and resources

46. In the tackling of the problem from the perspectives of local and regional sustainability, a broad range of activities have been undertaken, involving such areas as mountain ecology and sustainable development, natural resources in Africa, the future of sustainable environment and energy, and the definition and measurement of sustainability.

47. Work on mountain ecology and sustainable development is building on previous UNU activities, in such areas as human change in mountain regions, agro-forestry, land use in the humid tropics, expansion of highland ecosystems and their impact on the management of lowland areas and water resources, and techniques for sustainable productivity in tropical ecosystems. Contributions are being made to the understanding of the functions and processes of the components of the Earth's biosphere and physical life-support system. The new

findings build on previous UNU work on geophysiology and natural resource management. Work on energy use and its impact on the global environment includes a study of technologies and policy options for environmentally sound, economically viable and socially equitable uses of energy. Particular heed is being paid to energy choices that could help reduce the appalling rate of deforestation and the overloading of the atmosphere with emissions from burning fossil fuels.

48. In Africa, studies of natural resource use recognize the urgent need to improve the capability of African countries to manage and rehabilitate by themselves the continent's natural resources and environment. These efforts focus on strengthening national institutions in Africa, assisting scientists throughout the continent and, in general, helping provide the African scientific community with the capacity to generate and apply knowledge and innovative technologies for productive work, improve policy planning and enhance understanding of the crucial linkages between the management of natural resources and self-reliant development. Initially, the work in Africa is focusing on (a) soil and water conservation and management, (b) indigenous African food crops and other useful plants and (c) mineral resources development.

49. In examining another dimension of the environment problem, the work on sustainable environmental futures focuses on the complex interlinkage of nature and the human activities that are having an ecological impact, especially in the tropical regions of the world. The overall aim of the programme is to promote, ecologically as well as socially and economically, sustainable development through basic and applied research, training and dissemination. One element of this work is a long-term project on population growth, land transformation and environmental change. It deals with the management and mismanagement of land resources and the relationship of management to population growth and socio-economic growth. The project will operate through research clusters firmly anchored in the local scientific communities of the countries being studied. Clusters have already been established in Brazil, Nepal and Papua New Guinea; others are being initiated elsewhere in South-East Asia and in East Africa.

50. Another effort involves research and training concentrating on the humid tropics, and this is also bolstering South-South cooperation. To evaluate the existing state of research in preparation for this activity, a conference, jointly organized with the UNESCO Programme on Man and the Biosphere (MAB), the Association of Amazonian Universities (UNAMAZ) and the Third World Academy of Sciences, was held in June 1992 in Manaus, Brazil. The topic of the meeting was "Environmentally sound socio-economic development in the humid tropics". A description of the proposed programme has been sent by UNESCO to major donors for consideration. A report of the conference has been produced and a number of other publications are planned.

51. A UNU publication on the same general question of viable development in the humid tropics, is due to appear soon. Entitled South-East Asia's Environmental Future: The Search for Sustainability, the publication is based on a 1991 regional conference and edited by Harold C. Brookfield and Yvonne Bryon.

Multilateral action for dealing with global environmental change

52. Activities under this heading are focused on a number of different areas involving the human dimensions of global change. These include the implications of such change in international law, global risk assessment and critical environmental zones, industrial restructuring, the "metabolism" of industry and its ecological impacts, international governance and global environmental change, and international policy with respect to greenhouse gas indices.

53. As the centrality of human activities within the global ecological balance became more fully appreciated, it was a logical step for environmental studies to attempt to bring together the work of both natural and social scientists. While the bringing together of hard and soft scientists was often a difficult task in the past, their collaborative efforts to date, in activities meant to complement the International Geosphere-Biosphere Programme, have generated much valuable data about how to minimize the impact of changes on human societies as well as on ecosystems.

54. Equally critical is the building of broad public support for activities and interventions that will obviously have an impact on the daily lives of many hundreds of millions of people. Multilateral efforts, involving many nations, are needed to deal with the scale of environmental degradation. Thus, studies on the cross-sectoral aspects of global change, resource management and energy use are being stressed through investigation of legal norms and institutions that are involved in environmental management. Researchers have been able to draw valuable insights from earlier UNU work in this area.

55. The project on international law and global change is giving particular attention to the transnational and transgenerational aspects of existing legal canons. It follows up an earlier UNU study that produced a highly acclaimed, prize-winning book, In Fairness to Future Generations: International Law, Common Patrimony, and Intergenerational Equity, by Edith Brown Weiss. Current activities are concerned with the need to anticipate international legal approaches that would stimulate regimes dedicated to preventing environmental harm. A new UNU book, Environmental Change and International Law: New Challenges and Dimensions, edited by Edith Brown Weiss, is due out shortly. Training courses in international law and institutions have been organized in cooperation with the United Nations Environment Programme (UNEP); the first, dealing with strengthening legislation in the South Pacific region, was held in Samoa in November 1992.

56. A related effort is the project on international governance and global environmental change, which deals with transboundary controversies that can arise on questions of access to freshwater, control of the seas, land resources and biological diversity. A conference on the subject was held at Dartmouth College in the United States in 1991, and a book presenting the results is now in preparation. Another goal of the project is the eventual establishment of a UNU institutional link at Dartmouth focusing on this area.

57. The evolution of industry brings with it a transforming or "metabolizing" of the surrounding regional environment through its work processes and by-products, its impact on transport systems, and a variety of other influences. The first phase of the project on industrial restructuring and industrial

metabolism has produced a report that is being prepared for publication in book form. Plans for the second phase have gotten under way. The second phase aims to draw upon the histories of environmental pollution control and industrial restructuring in the developed countries, and will focus particularly on Japan; the hope is to help developing countries in the transfer of environmentally sound technologies.

58. A forthcoming book, Global Greenhouse Regime: Who Pays?, edited by Peter Hayes and Kirk Smith and published with Earthscan, reviews the central issue of international negotiations on the United Nations Framework Convention on Climate Change. Covering points of view of both the South and North, it addresses one of the major objectives of the Earth Summit held at Rio de Janeiro.

Economics of environment and development

59. The important relationship between environmental concerns and economics has become more apparent in recent years, particularly with the subject of the potential impact of social and environmental cost-benefit analysis of investment projects on natural resources and environmental services having become more integrated into economic thinking. Through environmental economics, a relatively new field based on the notion that geophysical interactions can be as important as trade flows or stock market gyrations, the UNU is conducting case-studies, developing modelling of environment and development relationships and undertaking data and policy analysis. Four studies are under way in the following areas: (a) legal framework for environmental economics; (b) economic accounting methods for environmental degradation; (c) micro-economic behaviour and sectoral changes, particularly in agriculture; and (d) decision-making in environment services management.

60. One project involves the preparing of a set of authoritative studies on the economics of environment and development. A second focuses on the preparation of a textbook on the economics of environmental resources. The third concerns a series of environmental economics lectures in developing country universities. The fourth project is concentrating on the preparation of a series of case-studies focusing on the economic and political aspects of global environmental protection. Among the outcomes to date have been a volume entitled The Economics of Transnational Commons, and a report entitled "A global environmental compact for sustainable development: resource requirements and mechanisms".

New programme initiatives and explorations

61. In addition to focusing on its two major areas of work, namely, global life-support systems and environmental economics, the UNU is also giving attention to other environmental problems of interest to the United Nations. Its involvement with those problems includes studies on environment and health, marine and ocean affairs, monitoring and data needs for the twenty-first century, and contributions to the Middle East Water Forum.

62. Environment and health is an emerging area of research and training for the UNU. Activities during the year have focused on two fronts: (a) a feasibility study for establishing a research and training programme on environment and

health in Canada and (b) joint UNU-UNESCO activities supported by the Japanese Ministry of Education. In the latter area, a 1991 conference at Minamata, site of one of the world's best-known environmental disasters, was organized with the Kumamoto Prefectural Government and the city of Minamata, in collaboration with the UNESCO Intergovernmental Oceanographic Commission (IOC).

63. A report on the conference, entitled "Industry, the environment and human health: in search of a harmonious relationship", has been produced. The second Minamata International Conference on "Community response to industrial hazards", was held in November 1992; it examined major industrial hazards that had hit local communities and community responses and rehabilitation strategies. The proceedings will be published.

UNU at the Earth Summit

64. Perhaps the UNU environmental activity with the highest profile in 1992 involved its role at the United Nations Conference on Environment and Development, held in Rio de Janeiro. The UNU was asked by the secretariat of the United Nations Conference on Environment and Development to take the lead in writing the chapter in Agenda 21 on sustainable mountain development, 1/ which came under the broader topic of managing fragile ecosystems. A more substantive status report on the world's mountains, 2/ covering the environmental and development issues involved, was also prepared for distribution at the United Nations Conference of Environment and Development. Another major input was the study group report on the environment and emerging development issues 3/ of the UNU/World Institute for Development Economics Research (WIDER). This report provided needed quantifications of the resource transfer implications of supporting feasible environmentally sensitive development in the third world, and outlined a set of optional mechanisms for implementing a global environmental compact involving reciprocal obligations between donors and recipients. The main findings of the report were also adopted in the Tokyo Declaration on Financing Global Environment and Development (one of the actions preparatory to the Earth Summit), connected with the Eminent Persons' Meeting on Financing Global Environment and Development, organized by the United Nations Conference on Environment and Development and held at Tokyo from 15-17 April 1992.

BOX 3

The UNU and the United Nations Conference on Environment and Development

The United Nations University (UNU) made a number of contributions to the United Nations Conference on Environment and Development from its preparatory stages through the actual Earth Summit in Rio de Janeiro. The UNU/WIDER was involved in the preparation of the economic estimates of the implementation of Agenda 21. The UNU programme on mountain ecology and sustainable development prepared the chapter of Agenda 21 on sustainable mountain development. The Director of the UNU project on environmental governance was invited to Geneva to brief the United Nations Conference on Environment and Development officials on UNU work on that subject. The head of the UNU office in Europe was a key figure in developing the United Nations Development Programme (UNDP) Capacity 21 programme. The UNU Rector, accompanied by several of his staff, and together with the Director of the UNU programme on international environmental law, participated in the Earth Summit meetings and related activities at Rio de Janeiro. Finally, the UNU, together with UNESCO, the Association of Amazonian Universities (UNAMAZ) and the Third World Academy of Sciences, organized an ancillary conference in Manaus on "Environmentally sound socio-economic development in the humid tropics".

Dissemination

65. The UNU forum series, designed to attract strong interest from the academic, governmental and diplomatic communities in Japan, was launched at the University's new headquarters building in Tokyo in September 1992 with a lecture by James Lovelock, creator of the Gaia hypothesis. The second lecture in October 1992 was given by James Gustave Speth, President of the World Resources Institute, on the topic of "Building a post-Rio North-South Compact: the role of the United States and Japan".

66. A catalogue presenting all the environment-related UNU books published by the University up to 1992 was prepared for the United Nations Conference on Environment and Development. Industrial Pollution in Japan, edited by Jun Ui, one of Japan's foremost experts on pollution problems, was the outstanding UNU Press book of the year in terms of sales.

BOX 4

Building on past research

From its inception, the UNU has been addressing problems of resource management with respect to fragile ecosystems such as highland-lowland interactive systems, agro-forestry systems and humid tropical forests. UNU studies of energy use and management have recognized energy's close links with sustainable development, evidenced, for example, in spreading deforestation (caused, in part at least, by the fuelwood demands of the poor) and global atmospheric change due to the emissions from fossil fuel combustion.

The project on climatic, biotic and human interactions in the humid tropics, which produced the ground-breaking book The Geophysiology of Amazonia, examined ways to halt the destruction of ecosystems without impeding local development needs. It demonstrated that the tropical rain forests constituted an essential global life-support system that interacted closely with the atmosphere, the soil, rivers and other natural elements.

Research on geothermal energy, which continues today, has assessed the technologies in this field and evolved new conceptual approaches to geothermal energy planning. Former UNU fellows, trained at the National Energy Authority in Iceland, now occupy policy-making positions in energy agencies in a number of third world countries.

The project on the food-energy nexus studied the interlinkages of food and energy systems by looking at four interrelated problems: integrated food-energy systems, alternative urban development strategies, ecosystems and cultural diversity and the social impact of food and energy technologies.

A project on natural hazards mapping, in the Himalayas, emphasized the need for site-specific studies as a foundation for land-use planning and helped bring attention to the critical problems of that region, as well as highlighted the need for shared responsibility for common ecosystems.

C. Science and technology

67. Science, and the technological applications that spring from it, are without question one of the major factors impelling some of the massive changes now under way around the globe. Technology is also a source of hope for coping with such changes in ways that improve the human condition. Science and technology have become as important to the economic development equation as land, labour and capital, and no nation can hope to achieve significant growth without the capacity to keep pace with the latest advancements in science and technology. This is bound to be the deciding factor in how nations succeed in the twenty-first century.

68. Advances in physics, chemistry and biology are rapidly giving rise to new materials that are beginning to replace traditional raw materials. Fibre optics is already wreaking havoc on third world copper markets, and new technologies in the fields of micro-electronics, robotics and informatics are fundamentally restructuring traditional divisions of labour.

69. Given this scenario, it is conceivable that the accelerating developments in science and technology will aggravate world-wide problems, setting off new tensions and waves of unrest; but as much as they may be part of the problem, science and technology could just as well, if used wisely, be part of the solution. Yet, on balance, with the quantity of scientific information and the rate of technological innovation expanding at an unprecedented pace, disparities between nations in this area are becoming greater every day. The inequities being caused are raising major ethical issues. Unfortunately, an understanding of the risks and rewards of accelerating changes in science and technology is still very inadequate.

70. The increased importance of basic research in high technology fields has resulted in the substantial growth of economic interests in areas that previously had been largely the concern of academics. Universities have also been called upon to be more cost-effective and oriented towards technological applications, many of which have commercial interest. This has led to an increasing privatization of the results of basic research, with Governments and corporations restricting access to scientific and technological developments as well as to the flow of information about them. The resulting impact on progress in basic science, as well as on its application, has prompted concern among scientists in both developing and developed countries.

71. In response, the University's research in this area is attempting to identify the risks and rewards of accelerating changes in science and technology as they affect development in different parts of the world. Part of the task is to pinpoint those scientific and technological advances that hold the greatest potential for solving problems in nations at all stages of development. What is basically needed is a rethinking of policies to allow the benefits of science and technology to be freely shared across national boundaries, particularly by nations in need. A major objective is to strengthen those institutions in developing countries that are involved in biotechnology and micro-informatics. Great importance is being placed on the interlinkages between education, management of research and development, and ease of access to new scientific information.

72. UNU research has three main focal points: (a) implications of new technologies, science and technology for development; (b) microprocessors and informatics; and (c) biotechnology in Latin America and the Caribbean.

Implications of new technologies

73. Since the 1960s, technological advances in micro-electronics, biotechnology and other disciplines have had far-reaching impacts on a broad range of production and service sectors. UNU work here concentrates on integrative policy-oriented research and on training in the economic and social implications of new technologies for developing countries. As indicated, those advances are both a threat and an opportunity. On the one hand, they are having a profound effect on the economic performances of industrialized countries - and in the process can wipe out already slim competitive advantages enjoyed by developing countries owing to the lower wages their workers may receive. On the other hand, adoption of new technologies can offer the third world, particularly the developing countries, opportunities for rapid and flexible production, which can be the basis for the expanding of exports and the growth of high-wage, skilled employment opportunities. This is amply borne out by the experience of the newly industrialized economies in the 1980s - notably, Hong Kong, the Republic of Korea, Singapore and Taiwan Province of China.

74. In confronting this duality, the UNU is seeking improved understanding of (a) the implications of new technologies for development strategy and industrialization policy; (b) the factors that influence diffusion of new technologies to developing countries; and (c) the impacts of new technologies on a range of socio-economic variables, such as output, trade, employment and distribution of welfare.

75. Current research on the implications of new technologies is being carried out under three main headings:

(a) Key economic issues related to the application of new technologies;

(b) Mobilizing technological capabilities in developing countries;

(c) New technologies and the division of labour in production.

76. Policy studies are also being conducted with two main objectives. The first is to develop collaborative relationships with appropriate researchers in developing countries. The second is to identify those factors most relevant to the successful development and adoption of new technologies.

77. The project on key economic issues related to the application of new technologies is focusing on the impact of newly introduced technologies on export-oriented growth. One component involves the surveying of successful export manufacturing firms in seven African countries to determine how their success has been related to technological change. The field studies have been completed and the preliminary results were scheduled to be discussed in a workshop in Africa in early 1993. A second component involves investigating the impacts of new technologies on economies of scale and the location of production; it seeks to quantify the effects of automation at the product, or

batch, level, at the individual plant level and at the firm level, for various industrial sectors in six countries. Results are expected in late 1993.

78. The study on aggregate economic and social impact of new technologies is seeking to develop simple (initially partial) models to examine the macroeconomic and sociological impacts of new technologies. The models will be tested in India.

Microprocessors and informatics

79. The systems supporting modern society are increasingly computer-based. Developing country economies are threatened by their inability to take full advantage of this information revolution. State-of-the-art microprocessor technology is being developed in only a few industrial countries, and this works to reinforce their traditional lead over the developing countries in science and technology.

80. The UNU is attempting to strengthen research and academic communities in developing countries to enable them to respond to the challenge of new technologies, like that involving microprocessors, that are having far-reaching global impacts. By concentrating on carefully selected locations and sponsoring specific development-oriented research and training activities, the UNU is helping to build up an active and competent group of third world specialists who could play the role of initiators and innovators and generate a multiplier effect.

81. The activities in the programme on microprocessors and informatics are focused on several areas. One, dealing with the design of microprocessor-controlled systems, is centred on research and training at the Microprocessor Laboratory of the International Centre for Theoretical Physics in Trieste, Italy. Its basic aim is to raise scientific and technological capabilities to a level necessary for understanding the world of microprocessors, using the technology involved, and innovating with that technology. Another element of the work concerns trying to identify the specific constraints on the use of modern informatics techniques in developing countries. The programme hopes to aid third world scientists in integrating their domestic information mechanisms with those of international systems, and thereby set up an important two-way street for international scientific communication.

Sourcebook on science, technology and development

82. The 1980s was a time when a number of developing countries suffered devastating set-backs in their attempts to adapt rapid technological change to their own cultural climates. There were no ready intellectual guidelines for appropriate action available to the third world planner. In trying to help fill this gap, the University invited a group of scholars to write an authoritative book that could be used as a sourcebook on science, technology and development. Supported by UNESCO and the International Development Research Centre (IDRC), the book has been completed, and bears the title The Hidden Quest: Science, Technology and Development. It was edited by Jean-Jacques Salomon, Francisco Sagasti and Celine Sachs, and is being prepared for publication by mid-1993.

83. One feature of the sourcebook has been its potential use in training courses. During the writing of the book, authors contributing to it participated in several training courses that used material drawn from it. Thus far, three such courses, each in a different region of the developing world, have been conducted, with support from UNESCO. The first, focusing on Latin American needs in science and technology planning, was held in Havana in March 1991. The second, held in New Delhi in October 1991, was devoted to Asian requirements. The third was held in Lagos, Nigeria, in September 1992.

Biotechnology in Latin America and the Caribbean

84. Advances in the field of biotechnology hold out dramatic promise of benefiting the developing countries in the realm of agriculture, health and industry. Nitrogen fixation can reduce the need for expensive fertilizers. Production of vaccines can be simplified. Small-scale industry can be stimulated by newly developed biotechnological techniques; but as is the case with so much else in modern science, the great majority of the recent patents in this field are in the hands of the industrialized countries. The UNU is committed to helping the third world create its own capacities in biotechnology - in both human and institutional resource terms.

85. The programme for biotechnology for Latin America and the Caribbean was formally established in 1989, with support from the Government of Venezuela. Its general objective is to develop and promote applicable and relevant techniques in biotechnology and genetic engineering in the region. Priority is given to training young scientists from the region. The work has three areas of concentration: (a) development of vaccines to fight tropical diseases, particularly brucellosis; (b) genetic engineering in plants to produce resistance to plant disease and improvement in the nutritional quality of crops; and (c) microbial fermentations of industrial interest.

86. A research network on brucellosis, a disease affecting both cattle and humans in the tropics, was established in 1990 with support from the Government of Canada. Similar networks are in the process of being established in the other priority areas.

87. Begun in 1992 and continuing through 1993, two-week courses are being offered by the programme at selected biotechnology institutions throughout Latin America. In such areas as food biotechnology (at the Central American Institute of Research and Industrial Technology in Guatemala); biotechnological processes (at the Universidad Nacional Autónoma in Mexico); plant genetic manipulation (at the Universidad Nacional de Rosario in Argentina); recombinant deoxyribonucleic acid (DNA) techniques (at Universidad Central de Venezuela); and the molecular basis for diagnosis of human diseases (at the Venezuelan Institute for Scientific Research).

Software technology for developing countries

88. Information has been called the lifeblood of the modern industrialized State - and the computer helps make it so. The software that runs the computer is enormously complex. A typical modern word-processing package for a personal computer can have 500,000 lines of code. Billions are spent each year on software engineering, most of it in the wealthy nations of the North.

89. UNU activities in the field of software technology are aimed at helping developing country software centres to create their own software as well as to apply a sophisticated range of computer programmes to their own problems, including the adaptation of software to national language, script and local culture. Software products might aid the developing countries in a variety of areas, for example, flood management, human and animal disease monitoring, customs and cargo control and small business inventories.

90. The bulk of the work in this field is being organized by the University's newest research and training centre, the International Institute for Software Technology in Macau. In 1992, the centre organized a series of research and development demonstrator projects and workshops. The seminars were organized in China and India.

ASSET: lifeline for third world engineers

91. The journal Abstracts of Selected Solar Energy Technology (ASSET), which was launched by the UNU 14 years ago, spans three major priority areas. In its focus on energy alternatives, it speaks directly to environmental problems discussed in the previous section.

92. ASSET is a vehicle of information circulated free of charge to a network of scientists and engineers in the field of renewable energy, primarily in developing countries. Each issue presents 60-80 abstracts of recent scientific advances in the renewable energy field. In 1988, ASSET moved from Tokyo to the Tata Energy Research Institute in New Delhi. Its move to a developing-world institution was seen as being very much in line with the UNU goal of putting such dissemination tools into the hands of the users themselves.

D. Hunger and poverty: eliminating basic deficiencies

93. The human condition can be seen as degenerating if poverty is considered in economic terms. The situation can be viewed as even worse if other elements are considered, including quality of life, living conditions (characterized by deterioration), and health and educational opportunities, especially for young people and women. The focus of the UNU's work is on both immediate relief of poverty and longer-term solutions to problems that affect most severely the least developed countries and regions. The UNU's research continues to take account of the chronic poverty that is prevalent in some industrializing societies, particularly in conjunction with increasing urbanization. Hunger and poverty necessitate a reassessment of multilateral efforts, which involves differentiating between dependency-generating assistance, and support for development and adjustment processes that will enable a society to overcome the poverty in its midst. Similarly, such a reassessment must take account of the need for sustainability, in economic terms as well as in relation to the declining health of the global environment.

94. A central area of the UNU's work in 1992 was connected with the relation between a sound environment and emerging development issues. Such work was focused on examining policies on a number of interlinked considerations, including poverty alleviation, treatment of common property resources, decision-making power and responsibilities, procedures for accounting in the

area of environmental resources, and techniques for the study of environmental implications of projects appraisal and international treaty obligations.

95. Continued research on medium-term development strategies was concluded during 1992 with the preparation of a manuscript for publication. The publication will contain country studies following the premise that each economy can be sensibly analysed only in terms of its history and institutions. Consistent with this perspective, the medium-term prospects of each country have been explored in terms of an interacting set of savings, foreign and fiscal constraints. However, there are no standard prescriptions or solutions emerging from the country studies. What those studies highlight is the implications of specific given circumstances for each of the country economies. For example, sensitivity of the growth rate to available foreign exchange differs significantly from country to country depending on the size of the economy. The analysis focuses on the likely trade-offs possible in macroeconomic decision-making within given situations and seeks to address the central issue of whether reform packages aimed at coping with changes in internal and external circumstances are feasible in the context of a country's historical and institutional background. The studies provide a representative cross-section of development experiences and prospects in the third world. They include countries where growth and reform seem to be under way; some countries undergoing a delicate transition of one form or another; and a third set of countries where the prospects for reform appear to be blocked for the present for political or distributional reasons. Against the background of earlier studies on stabilization experiences, the present findings mark a significant advance in the quest for a better understanding of the complex nature of these economies (see box 5).

BOX 5

UNU work on structural adjustment

The UNU's earlier work on structural adjustment was focused on the impact of the structural adjustment packages developed for many developing countries in the 1980s by international financial institutions. This produced 17 country studies in the first phase of the project to determine the impact of such policies in each country. The basic findings of the research project, in line with those of the study of the United Nations Children's Fund (UNICEF) entitled "Adjustment with a human face", indicated that structural adjustment programmes imposed greater hardship on the lower quadrants of each country's poor than was actually necessary. In short, the results of those same programmes could have been achieved with fewer overall social costs to the poor in each country.

96. Attention was also focused in 1992 on the implications of policies adopted by developing countries to diversify their economies in the pursuit of the accelerated growth and development that could ultimately eradicate stubborn pockets of poverty. One area of investigation centred in particular on the impact of trade policy on industrialization. The mainstream view in Western academic circles has been one that encourages exports and derides import substitution - indeed, this view has acquired the status of a new orthodoxy. UNU research, however, questions this conventional wisdom. Results suggest that other factors - including, for example, the impact of modern technologies and the role of foreign enterprises - could be equally important to a full understanding of the complicated export/import/growth equation. In short, there appears to be far more to industrialization policy than to trade policy.

97. In addition to pursuing basic economics-related research, the UNU was able to move forward in 1992 with several regional and subregional databases that were part of its International Network of Food Data Systems - the so-called INFOODS project. An ongoing activity of the UNU, it has sought to improve the availability and quality of food composition data world wide, particularly in developing countries. Access to such data is needed for assessment of nutrient intakes, nutrition education, epidemiological studies of diet and disease, and determination of agricultural and food policy.

98. The progress made during 1992 came primarily with the installation of computer hardware and software at two UNU-associated institutions participating in two subregional databases, ASEANFOODS and OCEANAFOODS. Technical support for those two databases is being made available by the Department of Scientific and Industrial Relations of the Department of Agriculture of New Zealand. Further development of regional databases in Latin America (LATINFOODS) and Africa (AFROFOODS) is under way and is being made possible through support from the International Development Research Centre (IDRC), Canada.

99. Efforts are also being made to mobilize the necessary support to make the UNU's Institute for Natural Resources in Africa (UNU/INRA) the headquarters for the INFOODS regional database in Africa and to include in that database, in addition to food composition data, information on useful African plants of both medicinal and economic value.

100. The UNU also undertook in 1992 to provide in book form classical longitudinal community studies on nutrition and health research. Such studies have had an important influence on our current understanding and approach to nutrition and health issues. The current studies are being undertaken in Colombia, Costa Rica, Guatemala, Haiti and Mexico and are meant to be made available to policy makers and to students.

101. In a similar area, the UNU has administered the International Dietary Energy Consultative Group (IDECG), which was established in 1986 by the Subcommittee on Nutrition of the Administrative Committee on Coordination (ACC). During 1992, a report of a 1988 workshop on the Guatemala Oriente Study was published in the UNU's Food and Nutrition Bulletin (vol. 14, No. 3). The study has attracted considerable attention because it showed that children who had received a nourishing supplement during weaning and up until three years of age were, when re-examined 15-20 years later, taller and heavier, had greater physical capacity, had completed more years of schooling and performed better on

intelligence and achievement tests compared with children who had received only a low-calorie beverage (see box 6).

BOX 6

Building on past research

The very first activities of the UNU, launched 17 years ago, were in the area of world hunger, with research at the Institute of Nutrition of Central America and Panama (INCAP), the UNU's first associated institution. INCAP focused on improving nutritional needs among third world populations; its findings helped to correct earlier inadequate diet standards. Work in prevention of post-harvest losses began in 1976 at the second associated institution, the Central Food Technological Research Institute (CFTRI), in Mysore, India. One of the great success stories has been the fellowship training programme; many UNU fellows from different countries have returned to important policy-making positions in their home countries.

102. The UNU also continued to work closely with the ACC Subcommittee on Nutrition in assembling information on iron deficiency - currently the most widespread and functionally significant nutrient deficiency in the world. Through the Group on Control of Iron Deficiency (GCID) and with the support of the World Bank, the UNU has established a secretariat for the Group at the University of California, Berkeley. Efforts in this area will focus on subregional meetings to increase awareness of the functional consequences of iron deficiency and to promote the development of national plans to control it. Work has also been undertaken to develop an extensive data bank of persons concerned with the problem of iron deficiency in each country. Tabulations of the magnitude of the problem and the resources to deal with it in as many developing countries as possible were scheduled to be submitted to the next meeting of the ACC Subcommittee on Nutrition in February 1993.

103. Another UNU contribution in 1992 came from its work within the rapid assessment procedures (RAP) project. A joint UNU-UNICEF initiative, that project has disseminated widely guidelines for the use of relatively rapid and inexpensively focused anthropology-based methods to determine the impact of intervention programmes on health-related behaviours and to improve such programmes or to better design them before they are initiated.

104. A Chinese edition of the RAP guidelines was completed in early 1992, with that linguistic resource being added to those already available in English, Spanish and French. Portuguese and Arabic editions are in preparation. There has been increased demand for those guidelines and for a video (currently in English and Spanish) on the RAP methodology. A book entitled Rapid Assessment Methodologies for Planning and Evaluation of Health Related Programmes, based on a 1990 UNU conference held in Washington, D.C., was published during 1992. Dissemination efforts also progressed in 1992 with the organization of several national RAP workshops in Argentina, Peru and Turkey. A new type of RAP was conducted in Romania in 1992 for participants from Bulgaria, Hungary, Kazakhstan, Poland, Romania, the Russian Federation and Ukraine. Meant to be

replicated elsewhere, it was designed primarily for planners, policy makers and administrators rather than researchers. It dealt not only with the appropriate use of RAP, but also with how other, parallel methodologies might be used alone or in combination with RAP.

E. Capacity-building: UNU training and fellowships

105. During 1992, throughout the University system, 69 UNU fellows completed studies in specific areas with various academic institutions in different parts of the world, bringing the total number of fellows trained by the UNU since 1976 to 1,170. A total of 53 fellows started training within specific areas covered under the four problem areas discussed above, namely, multilateralism, environment, science and technology, and hunger and poverty. That training was undertaken in such specific areas as economics and quantitative techniques, geothermal energy, renewable energy systems, mountain ecology, remote-sensing technology, science and technology policy, biotechnology, micro-informatics, food science and technology, food processing technology, nutrition policy and planning, applied human nutrition, human trace element metabolism, and nutritional immunology (see annex IV).

106. In addition to the training activities under the regular UNU fellowship programme, several training workshops ranging in duration from one to six weeks were organized in 1992 in such areas as governance and conflict resolution, natural hazard reduction, food biotechnology, genetic engineering techniques, industrial scaling of biotechnological processes, qualitative project appraisal methodology using the rapid assessment procedures (RAP), science and technology policies for development, and application of microcomputers for the teaching of mathematics and science. All in all, 280 individuals attended those training workshops organized at UNU collaborating institutions.

107. The different modalities adopted by the University are enhancing training opportunities and improving the University's performance in this important area. For example, the UNU's training programme provides some opportunities for young holders of the Doctor of Philosophy degree (Ph.D.) to work as interns while earning academic credits at the same time. Others are provided with opportunities for full Ph.D. work under the supervision of resident scholars while obtaining their academic degrees from their home university. Other UNU training activities in 1992 included the convening of high-level courses in such areas as computer software applications as well as mineral resources and environmental economics.

BOX 7

Funding for UNU fellowships

The proportion of funds received from external sources and counterpart contributions compared with that from the UNU's core budget continued to increase in 1992. In 1992, the contribution of the Government of Iceland to the UNU Training Programme in Geothermal Energy increased to US$ 438,000 (more than five times the UNU's expenditure for this course) from US$ 412,182 in 1991 and US$ 264,900 in 1990. The Japan Foundation for the UNU contributed US$ 144,000 for the support of fellowships in 1992 compared to US$ 46,000 in 1991 and US$ 30,000 in 1990. The Government of Ireland provided US$ 143,333 in 1992 for fellowship training in micro-informatics in Irish universities and other research centres as well as for the organizing of workshops related to training in the United Republic of Tanzania, Uganda and Zambia. An agreement was concluded with the Foreign and Commonwealth Office (FCO) of the United Kingdom of Great Britain and Northern Ireland for implementing up to five fellowships in British institutions, with the costs to be shared equally between the UNU and the FCO. This agreement was one of several that the UNU made with government agencies and institutions in Argentina, Brazil, China, Colombia, Cuba, India, the Republic of Korea, Thailand and Venezuela for cost-shared fellowships. Although the FCO has expressed interest in increasing the number of fellowships in 1993, it is doubtful whether the UNU will be able to allocate the required additional funds from its core budget. The Kirin Brewery Company in Japan has recently pledged to support three to five fellowships annually starting in 1993 in the area of food and nutrition, with a provision to support the research work of the fellows after they return to their respective countries. The International Nutrition Foundation for Developing Countries (INFDC) has received donations from various sources for support of short-term training under the UNU Programme on Food and Nutrition for Human and Social Development.

IV. STATE OF THE UNIVERSITY

108. The move of the University centre to the University's new permanent headquarters building, in the Aoyama district of Tokyo, is seen as a significant development towards building up the coherence of the academic programme. For the past 17 years, the UNU headquarters has been located in a high-rise office building not far from the site of the permanent headquarters building constructed and made available by the Government of Japan.

109. The move to the new building has brought with it an increased visibility both in Japan and abroad. The new headquarters facilities, in a high-cost, high-profile location in Tokyo, have drawn considerable attention from the international media. Such attention has tended to focus primarily on the perceived financial burden placed on the University's limited financial resources and only remotely on the tremendous potential influence that the spacious new building can have on the world-wide activities of the UNU.

110. Prior to the move to the new headquarters building, the University had begun to develop a plan of headquarters-based academic initiatives that could not have been undertaken previously within its restricted premises. That plan sought to address the often expressed need to involve a larger number of Japanese scholars and scientists in the international research and training programmes of the University. The new initiatives were developed to be carried out jointly with the planned Institute for Advanced Studies (UNU/IAS) to be established alongside the new building. Notwithstanding the considerable interest expressed by the Japanese academic community in the proposed initiatives, by the end of 1992 only limited funding had been forthcoming from the Japanese Government and the private sector in Japan in support of these activities.

111. The extensive efforts of the United Nations in the areas of peace-keeping and peacemaking, together with its humanitarian relief activities carried on throughout the globe in 1992, centred world attention on the United Nations system and brought renewed calls for a re-examination of its effectiveness in preventing international crises, alleviating poverty, fostering peace and improving human welfare. In addition, the separate and multifaceted roles of different United Nations organizations in facilitating sustainable development and promoting sound environmental policies have come under heightened scrutiny and discussion.

112. With the increasing demands for more effective action by the United Nations system has come the call for the United Nations University to make a greater impact on and offer more input into the work of that system.

113. To address these concerns, the UNU has sought to reorient the directions of its work and to enhance its ability to bring the results of its programme of academic activities to bear more directly on the activities of the United Nations system. During 1992, efforts in this direction continued on two levels. The Rector participated as an Under-Secretary-General of the United Nations in the regular deliberations of the senior officials of the United Nations system on questions of improving the effectiveness and efficiency of the system. Although moves to consolidate overall United Nations research activities slowed

down during the year, some specific cooperation, particularly between the UNU and UNESCO, was achieved.

114. It became more apparent that the UNU would have to improve its manner of making the results of its research available or known to the United Nations system so that it might have the desired or intended impact. This would involve not simply improving the dissemination of its printed output, but also providing appropriate material for specifically targeted audiences, policy makers in particular.

115. One difficulty faced in disseminating the University's research results has been that of making the coherence of the academic programme better understood. Indeed, as part of its overall institutional development strategy, the University endeavoured, in 1992, to achieve more overall coherence and impact within its programme of research, advanced training and dissemination. Part of this effort was directed towards a reorientation of the University's planned activities over the medium-term that would involve a more concentrated spectrum of activities that could more effectively impact on the work of other United Nations organizations. During the year, for the first time, two meetings of the Conference of Directors (the Directors, that is, of the University research and training centres and programmes) were held, one in April and one in December. At each, a central focus of discussion was on creating more opportunities for synergism and complementarity with respect to the work undertaken by each of the UNU's research and training centres and programmes. Multilateralism, environment, science and technology and hunger, and poverty were the first four issue-oriented areas identified in connection with which closer collaboration among research and training centres would be explored.

116. Overall, the development of the academic programme continued in 1992 in new and different areas of work, with particular emphasis on the establishment of research and training programmes that would bring a measure of additionality or comparative advantage to the University's work. With a view to assisting developing countries in attaining self-reliance in the area of software technology, the newest UNU research and training centre, the UNU/International Institute for Software Technology (UNU/IIST), commenced operations from its Macau location in July 1992. Funding for the establishment of UNU/IIST was made available by Portugal, China and Macau.

117. In pursuing the aim of establishing a research and training centre on governance, state and society in Barcelona, discussions continued throughout 1992 with the Province of Catalunya, the City of Barcelona and the Government of Spain. In October, documents were signed to formalize the intent of the various parties to move forward with the establishment of the research and training centre at the earliest possible date.

118. The signing in December of an agreement with Ulster University to establish a research and training programme was a major development in the UNU's work on conflict resolution. The agreement followed a study of research and training needs in the area of ethnicity and conflict resolution. According to its central concept, the programme is to serve as the meeting place for a range of theoretical, disciplinary and practice traditions in addressing the matter of conflict resolution. The programme will use its research findings to develop training initiatives for negotiators, mediators, police and military personnel

who have to deal with such conflict on a daily basis. Emphasis will be placed on group learning about conflict and on the experience and practice of participants working within the area of conflict studies.

119. Plans to initiate research on the global environment and human health continued throughout the year, and there were discussions with the state of Baden-Württemberg and the University of Ulm, Germany. With the focus on the possible establishment of a research and training centre at Ulm, a feasibility study and an international consultative meeting were carried out and negotiations with German government officials and consultations with academic institutions and international organizations were continued during the year.

120. In the same field, a memorandum of understanding was signed with the Ministry of Industry, Trade and Technology (MITT) of the Province of Ontario, Canada, in March 1992 for the purpose of preparing an international feasibility study on the possibility of establishing a UNU research and training centre or programme in Ontario. MITT agreed to provide the sum of Can$ 230,000 to the UNU to carry out the feasibility study, and the study team had its first meeting in late October 1992.

121. Studies on culture and development in the Asian and Pacific region moved closer to realization with the establishment by the UNU in November 1992 of a regional coordinating unit as part of the Asian-Pacific Centre established by the City of Fukuoka, Japan. With support from the city of Fukuoka, the unit will carry out scientific research on the problems of culture and development in Asia and the Pacific in close cooperation with selected institutes and universities world wide and will also provide training to young scholars.

122. One important emphasis of the University's academic work in 1992 was on making a useful input into the preparations for the United Nations Conference on Environment and Development. These contributions were part of the broader effort to bring UNU research results to bear on the work of the United Nations system. Similar efforts are being made in preparation for the 1994 International Conference on Population and Development and for the 1995 fiftieth anniversary of the United Nations.

123. As a voluntarily funded United Nations organization, the UNU faced a difficult year in efforts to mobilize new untied endowment fund contributions. Financial support for new research and training centres and contributions for specific programmes were forthcoming. As of 31 December 1992, pledges to the Endowment Fund and operating contributions made by 50 Governments and 5 other benefactors totalled some US$ 263.75 million, of which US$ 226.4 million had been received. In addition, specific programme contributions totalling US$ 8.3 million were received. The University also benefited in 1992 from counterpart funds and other support made available to the University's associated institutions and other cooperating institutions and organizations for the purpose of carrying out collaborative programmes and projects with the University, including cost-sharing arrangements for fellowships and other activities.

124. Notable in 1992 were the expression of intent on the part of authorities in the Generalidad de Catalunya to commit up to US$ 21 million to be paid over a period of seven years for the UNU research and training centre on governance, and a pledge of 30 million yen (¥30 million) (US$ 240,000) per year for five years by the Kirin Brewery Company of Japan for a UNU Kirin Fellowship Programme in the area of food science and technology.

BOX 8

Estimated UNU Income and Expenditures for 1992-1993

Total income	US$ 60.3 million
Total expenditure	US$ 55.1 million

V. AFTERWORD

125. It is the intention of the United Nations University to prepare future annual reports in a manner similar to that used for the 1992 report. The aim will be to reflect more coherently the various components and aspects of the work of the institution for the better understanding of readers wishing to comprehend how the University operates in the interest of the United Nations system.

Notes

1/ Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, vol. I, Resolutions Adopted by the Conference (United Nations publication, Sales No. E.93.I.8 (vol. I)), resolution 1, annex II, chap. 13.

2/ Peter Stone, State of the World's Mountains: A Global Report (London and New Jersey, Zed Books, May 1992).

3/ Partha Dasgupta and others, The Environment and Emerging Development Issues, Study Group Series No. 7 (United Nations University/World Institute for Development Economics Research, January 1992).

Annex I

UNITED NATIONS UNIVERSITY COUNCIL MEMBERS

Appointed members

Dr. Lucille Mair, Ambassador Extraordinary and Plenipotentiary and Permanent Representative of Jamaica to the United Nations; former Minister of State, Ministry of Foreign Affairs, Trade and Industry, Kingston, Jamaica; former Deputy Permanent Representative of Jamaica to the United Nations; former Secretary-General of the 1984 International Conference on the Question of Palestine, and of the 1980 World Conference of the United Nations Decade for Women; and former Director of Public Information of Jamaica (Chairman of the Council)

Mr. Vladimir Dlouhy, Minister, Ministry of Industry and Trade; formerly Deputy Director, Institute of Economic Projections, Czechoslovak Academy of Sciences, Prague, Czech Republic

Dr. Claude Frejacques, Professor and former Chairman, Centre national de la recherche scientifique; Member, Académie des sciences; former Chairman, Délégation à la recherche scientifique et technique; former Director, Commissariat à l'energie atomique; and former Professor, Ecole polytechnique, Paris, France (Vice-Chairman and Chairman, Committee on Finance and Budget)

Ambassador Hideo Kagami, former Permanent Representative of Japan to the United Nations, former Ambassador of the Mission of Japan to the European Community, and to Iraq; former Director-General of the Information and Cultural Affairs Bureau, of the Middle Eastern and African Affairs Bureau, and of the Research Department, Ministry of Foreign Affairs, Tokyo, Japan

Dr. Sippanondha Ketudat, Chairman, Petroleum Authority of Thailand; former Minister, Ministry of Industry, Royal Thai Government; Chairman, University Affairs Council, Ministry of University Affairs; former President, National Petro-chemical Corporation, Ltd.; Senator, National Legislative Assembly; former Minister of Education, Bangkok, Thailand; former member, Governing Board of UNESCO's International Institute for Educational Planning; and former Professor of Physics, Chulalongkorn University, Bangkok

Professor Sang Soo Lee, Professor Emeritus, Korea Advanced Institute of Science and Technology; Vice-President, Federation of All Science and Technology Societies of Korea; President, Korea Remote Sensing Society and Optical Society of Korea; and member, National Academy of Science of Korea and Third World Academy of Science

Professor Madina Ly-Tall, Ambassador Extraordinary and Plenipotentiary of the Republic of Mali to France; former Professor of History, University of Dakar, Dakar, Senegal; and former Professor of History, Ecole normale supérieure of Bamako, Mali

Father Felipe E. Mac Gregor, Chairman, Instituto de la Paz, Universidad del Pacifico; former Rector, Colegio de la Inmaculada; President, Comision Academica de la Universidad del Pacifico; Rector Emeritus, Pontificia Universidad Catolica del Peru, Lima, Peru; former member, Governing Board of the International Association of Universities; and former member of the United Nations University Council (1977-1983) (Vice-Chairman and Chairman, Committee on Statutes, Rules and Guidelines)

Dr. Edson Machado de Sousa, former Secretary of Science and Technology of the Presidency and Secretary of Higher Education, Ministry of Education and Culture; General Director, Coordination for the Improvement of Higher Education Personnel, Ministry of Education and Culture, Brasilia; Secretary of Education, State of Paraná, Brazil

Dr. Abdel Salam Majali, Chairman, World Affairs Council; Adviser to His Majesty the King; former President, University of Jordan, and Professor, College of Medicine of the University; former Minister of Health; of Education; and of State for Prime Ministry Affairs, Amman, Jordan; and former member of the United Nations University Council (1977-1983)

Professor Lydia Makhubu, Vice-Chancellor and Professor of Chemistry, University of Swaziland; President, Royal Swaziland Society of Science and Technology; Chairman, Government of Swaziland's Ad Hoc Committee on Science and Technology, Kwaluseni, Swaziland; member, former United Nations Advisory Committee on Science and Technology for Development; and fellow, African Academy of Sciences

Dr. Vladlen A. Martynov, Director, Institute of World Economy and International Relations; and corresponding member, Russian Academy of Sciences, Moscow, Russia

Father Lucien F. Michaud, Professor, University of Sudbury, Ontario, Canada; former Secretary-General, International Federation of Catholic Universities; former President, University of Sudbury; former Vice-President, Canada and Donor Relations, International Development Research Centre

Dr. A. P. Mitra, President, National Academy of Sciences; former Director-General of the Council of Scientific and Industrial Research, and of the National Physical Laboratory; former President, International Union of Radio Science; Bhatnagar Fellow, Council of Scientific and Industrial Research; Fellow of the Indian Academy of Sciences, of the Indian National Science Academy, of the National Academy of Sciences, of the Royal Society of London, and of the Third World Academy of Sciences, New Delhi, India

Professor Jacob L. Ngu, Inspector-General in Charge of Higher Education, Ministry of Higher Education; former Vice-Chancellor, University of Yaoundé; and former Director, Yaoundé Medical School, Yaoundé, Cameroon

Dr. Luis Manuel Peñalver, Honorary President, Grupo Universitario Latino-Americano (GULERPE); Vice-President, Asociación de Rectores de Universidades (IAUP); Adviser to the Senate of the Republic of Venezuela; President, National Council for Education; Vice-President for Latin America and the Caribbean of the Executive Board of UNESCO; and former Minister of Education, Caracas, Venezuela

Dr. Rafael Portaencasa, Rector, Polytechnical University of Madrid, and Full Professor, Faculty of Informatics of the University; President, Council of Spanish Rectors; and Member, Spanish University Council, Madrid, Spain

Dr. Victor Rabinowitch, Vice-President, MacArthur Foundation; Director, Bulletin of Atomic Scientists; Scientific Editor, World Development; member of the Pugwash Conference for Scientific and World Affairs, of the American Academy of Arts and Sciences, of the World Academy of Sciences, and of the Council on Foreign Relations; and former Executive Director, Office of International Affairs, National Research Council, United States of America

Professor Frances Stewart, Senior Research Officer, Institute of Commonwealth Studies, Queen Elizabeth House and Fellow, Somerville College, Oxford; President, United Kingdom and Irish Development Association; Council Member, Overseas Development Institute, United Kingdom of Great Britain and Northern Ireland

Professor J. A. van Ginkel, Rector Magnificus and Professor of Human Geography, Utrecht University; member, Bureau (Board), European Rectors Conference (CRE); Chairman, NWO-Population Studies Programme, and of the Coordinating Committee of the Netherlands' Advisory Councils for Scientific Research; and Treasurer, NUFFIC (the Netherlands Universities Foundation for International Cooperation), the Netherlands

Professor Raimo Vayrynen, International Relations; Dean, Faculty of Social Sciences, University of Helsinki, Finland; former Chairman, Finnish Social Science Research Council; former Chairman, the Joint Nordic Committee of International Relations Research; former Secretary-General, International Peace Research Association (IPRA) (Vice-Chairman and Chairman, Committee on Institutional and Programmatic Development)

Professor Josephine Guidy-Wandja, Professor of Mathematics, Université nationale de Côte d'Ivoire, and of Recherche operationelle, Ecole nationale d'administration, Abidjan, Côte d'Ivoire

Dr. Wang Shaoqi, Director-General, International Cooperation Department, State Science and Technology Commission, Beijing, China

Rector

Professor Heitor Gurgulino de Souza

Ex officio members

Mr. Boutros Boutros-Ghali, Secretary-General, United Nations, New York, United States of America

Dr. Federico Mayor, Director-General, United Nations Educational, Scientific and Cultural Organization, Paris, France

Mr. Marcel Boisard, Acting Executive Director, United Nations Institute for Training and Research, New York, United States of America

Annex II

BOOKS AND JOURNALS PUBLISHED IN 1992

The Arab World: Nation, State and Democracy
By Fawzy Mansour
Published with Zed Books, United Kingdom of Great Britain and Northern Ireland

Buddhism Betrayed? Religion, Politics and Violence in Sri Lanka
By Stanley Jeyaraja Tambiah
Published with the University of Chicago Press, United States

Commodities in Crisis: The Commodity Crisis of the 1980s and the Political Economy of International Commodity Policies
By Alfred Maizels
Published by Clarendon Press, United Kingdom

Compiling Data for Food Composition Data Bases
By William M. Rand, Jean A. T. Pennington, Suzanne P. Murphy, and John C. Klensin
Published by UNU Press, Japan

East-West Migration: The Alternatives
By Richard Layard, Olivier Blanchard, Rudiger Dornbusch, and Paul Krugman
Published with MIT Press, United States

Financial Openness and National Autonomy: Opportunities and Constraints
Edited by Tariq Banuri and Juliet B. Schor
Published by Clarendon Press, United Kingdom

Industrial Pollution in Japan
Edited by Jun Ui
Published by UNU Press, Japan

INFOODS Food Composition Data Interchange Handbook
By John C. Klensin
Published by UNU Press, Japan

The Impact of Labour Migration on Households: A Comparative Study in Seven Asian Countries
Edited by Godfrey Gunatilleke
Published by UNU Press, Japan

Participatory Development: Learning from South Asia
By Ponna Wignaraja, Akmal Hussain, Harsh Sethi, and Ganeshan Wignaraja
Published with Oxford University Press, Pakistan

The Role of Labour-Intensive Sectors in Japanese Industrialization
By Johzen Takeuchi
Published by UNU Press, Japan

Shorai sedai ni kosei na chikyu kankyo o
(Japanese edition of In Fairness to Future Generations: International Law, Common Patrimony, and Intergenerational Equity)
By Edith Brown Weiss
Published with Nippon Hyoronsha Co., Ltd., Japan

Social Corporatism: A Superior Economic System?
Edited by Jukka Pekkarinen, Matti Pohjola and Bob Rowthorn
Published by Clarendon Press, United Kingdom

Social Support Systems for the Aged in Egypt
By Adel Azer and Elham Afifi
Published by UNU Press, Japan

Trade Policy, Industrialization, and Development: New Perspectives
Edited by Gerald K. Helleiner
Published by Clarendon Press, United Kingdom

Journals

Abstracts of Selected Solar Energy Technology (ASSET)
Vol. 12, No. 3, vol. 13, Nos. 1-3, vol. 14, Nos. 1-2
Published with Tata Energy Research Institute (TERI), India

Food and Nutrition Bulletin (FNB)
Vol. 13, Nos. 3-4; vol. 14, Nos. 1-2
Published by UNU Press, Japan

Global Environmental Change: Human and Policy Dimensions
Vol. 2, Nos. 1-4
Published with Butterworth-Heinemann, United Kingdom

Journal of Food Composition and Analysis
Vol. 5, Nos. 1-4
Published with Academic Press, United States

Mountain Research and Development
Vol. 12, Nos. 1-4
Published by the University of California Press, United States, for the United Nations University and the International Mountain Society, United States

Annex III

PROGRAMMATIC ACTIVITIES FOR THE 1992-1993 BIENNIUM

Hunger and poverty

Food and nutrition for human and social development (UNU centre)

- Rapid Assessment Procedures (RAP)
- International Network of Food Data Systems (INFOODS)
- International Food Intake Data (INFID)
- International Dietary Energy Consultative Group (IDECG)
- Regional Food and Nutrition Project for Africa, with the Association of African Universities (AAU)
- Publication of Food and Nutrition Bulletin, Journal of Food Composition and Analysis, INFOODS newsletter, Dietary Guidelines for Pre-School Children, and updated Directory of Anthropologists and Sociologists Concerned with Food and Nutrition

Hunger and poverty: the poorest billion (UNU/WIDER)

- Social security - comparative Indian experiences
- Widows in rural India
- Famine prevention in Ethiopia
- War and famine in the Middle East

Environment

Mountain ecology and sustainable development (UNU centre)

- Participation and presentation at the United Nations Conference on Environment and Development in Rio de Janeiro
- Training in natural hazard reduction in collaboration with the University of Geneva
- Workshops for programme development with reference to highland Africa and the Andean region in Latin America
- Periodical publication of Mountain Research and Development and World Mountain Network Newsletter

Natural resources in Africa (UNU/INRA)

Soil and water conservation, management and utilization for sustainable development

Indigenous African food crops and other useful plants

Home gardens

Mineral resources development

Preparation of a teaching and learning module on renewable energy sources, with UNESCO

Sustainable environment and energy futures (UNU centre)

International conference on the definition and measurement of sustainability, with the Smithsonian Institution and the United States Agency for International Development (USAID)

Pro-Amazonia: ecologically, socially and economically sustainable resource use patterns in the humid tropics, with UNESCO/MAB (Man and the Biosphere programme), UNAMAZ (International Association of Amazonian Universities) and TWAS (Third World Academy of Sciences)

Meeting on strategies for sustainable development of water resources in the Middle East

Conference on sustainable environmental and resource management futures for sub-Saharan Africa

Collaborative research on population growth, land transformation and environmental change

Training courses on international environmental law, on ecology and management of inland waters, and on remote sensing technology

Conferences on industry, environment and human health, with support of Kumamoto Prefecture, Japan

Feasibility study of a proposed programme on ocean affairs and marine science, with support from the Sardinian Regional Authority, Italy

Feasibility studies on possible research and training centres and programmes, one in Germany and another in Ontario, Canada, in the area of sustainable development and environmental management

Periodical publication of Abstracts of Selected Solar Energy Technology (ASSET)

Human and policy dimensions of global environmental change (UNU centre)

Completion of research, editing and publication of reports and books of various working groups

Training activities based on research activities, including the area of international environmental law

Exploratory activities with Dartmouth College in the United States of America oriented towards the formation of a possible joint programme on international environmental governance

Formulation of new initiatives, drawing on, inter alia, related work of UNU/WIDER and the United Nations Conference on Environment and Development outcomes

Periodical publication of Global Environmental Change: Human and Policy Dimensions

Economics of environment and development (UNU/WIDER)

Publications on completed research, including policy paper for the United Nations Conference on Environment and Development

Summer schools

Multilateralism

Governance and conflict resolution (UNU centre)

International conference on ethnic conflicts and the devolution of power in multi-ethnic States

Socio-economic and political consequences of the international trade in illicit drugs, with publication of country reports as end-products

Meetings in South Asia on the formation of subnationalist and religious identities and their assertion

Several monographs on such themes as early warning of ethnic conflicts and conflict transformation, arms transfers and ethno-populist movements

Regional training seminars on ethnic conflict management and resolution

Meeting on ethnic conflict and governance, in cooperation with Ulster University in Northern Ireland, with which an agreement was signed in November 1992 for a joint programme on conflict resolution and ethnicity

Following the signing of an agreement with the Government of Catalunya, Spain, in October 1992, a transitional programme for the proposed research and training centre on "Governance, State, and society" in Barcelona, to start in 1993

Multilateralism and the United Nations system (UNU centre)

Survey on scholarly work on multilateralism and the United Nations system

Research and related workshops on selected security issues

International conferences and symposia, including a meeting in Geneva in April 1992, on strengthening multilateral action: the role of the international scholarly community

International symposium on the role of the United Nations in the twenty-first century, in connection with the inaugural ceremonies of UNU headquarters in February 1993

Science and technology

Implications of new technologies (UNU/INTECH)

New technologies and export-oriented growth

New technologies, economies of scale and location of production

Aggregate economic and social impact of new technologies

Research and development institutes in developing countries: a case-study of Taiwan Province of China

Politics of technology policy institutions

Impact of economic crisis and structural adjustment policies on science and technology in Latin America

Policies towards technology transfer in an era of changing economic structure

Training by specialized supervision of Ph.D. candidates and development of curricula for Ph.D. course work

Biotechnology in Latin America and the Caribbean (United Nations University/Biotechnology in Latin America and the Caribbean (UNU/BIOLAC))

Brucellosis vaccines research network

Training courses at biotechnology institutions in Latin America on:

Food biotechnology

Biotechnological processes

Plant-gene manipulation

Recombinant deoxyribonucleic acid (DNA) techniques

Molecular basis for diagnosis of human diseases

Microprocessors and informatics (UNU centre)

Research and advanced teaching in informatics in selected universities, including the first African colloquium on "Research in computer science" at the University of Yaoundé in 1992, with support from the Government of France

Design of real-time control systems (integrated microprocessor-controlled instrumentation)

Information for system design and management of complex man-made systems

Training at ICTP (International Centre for Theoretical Physics) in Italy, at Trinity College on an all-Ireland level and at AIT (Asian Institute of Technology) in Thailand

Software technology for developing countries (United Nations University/ International Institute for Software Technology (UNU/IIST))

People's Republic of China (PRC) railway computing systems

Macau general information and control system

Disaster management computer and communication system

Geographical and demographic management information system

Mongol (and Manchu) traditional script

Management information systems for higher education, with UNESCO

Small business software systems for Africa

Design techniques for real-time systems

Scientific computing for high school and university, befitting experimental research and teaching

Seminars at academic/scientific institutions in developing countries

Workshops on:

Design techniques for real-time systems

University curricula in software technology

INESC (Institute de Engenharia de Sistemas e Computadores) in Portugal, experience in information technology transfer

Advanced seminars on current topics in programming methodology

Ph.D. internship

Frontiers of science and technology (UNU centre)

Series of international symposia on frontiers of science and technology: in 1991, on impact of chaos on science and society; in 1992, on access to science and technology: the role of information technology

Others

Culture and development (UNU centre)

UNU's contribution to the World Decade for Cultural Development, research and other activities to be continued, with the establishment of a UNU coordinating office at the Asia-Pacific Center in Fukuoka, Japan, in November 1992

Special projects (UNU centre)

UNU global seminar in Japan

Japan-Association of South-East Asian Nations (ASEAN) forum with support from Tokyo Marine Kagami Memorial Foundation in Japan

Implications of demographic change and urbanization (UNU centre)

Mega-city and urban development:

The Asia-Pacific urban system: towards the twenty-first century

A similar study started for Latin America and planned for Africa

Publication of Emerging World Cities in Pacific Asia: Growth and Adjustment to Global Restructuring and of Tokyo: A Mega-city in Transition

International labour migration, with the International Labour Organisation (ILO) and the Office of the United Nations High Commissioner for Refugees (UNHCR)

Future global change and modelling (UNU centre)

Establishment of a standing UNU Panel on Global Change to advise the UNU on emerging global issues

Series of research conferences, with the publication of Global Change and Modelling, based on one of the conferences

Feasibility study of the Millennium Project, with support from USA/EPA (United States Environmental Protection Agency)

Money, finance and trade: reforms for world development (UNU/WIDER)

Medium-term development strategy

Commodities in crisis

Trade and industrialization reconsidered

Potential impact on commodity export earnings of developing countries of appropriate supply management

Macroeconomics with a conservationist face

Debt and politics

Transformation of centrally planned economies

Economic development in African countries

Women in development (UNU/WIDER)

National development, identity politics and concepts of feminism

Empowering women in the casualized trades

Women, equality and reproductive technology

Other development economics projects (UNU/WIDER)

Relevance of the development experience of East Asian countries in evolving strategies for African economic recovery

Development and security

Participation and cooperation in economic enterprises

Role of the State in economic change

UNU/WIDER-ECLAC (Economic Commission for Latin America and the Caribbean) joint project on financing for development

Trust and the refugee experience

James S. McDonnell Distinguished Scholars at WIDER

UNU/WIDER annual report on the world economy

UNU/WIDER study groups

Projects to be implemented with the special Finnish programme contribution

Middle East Water Forum (UNU centre)

International meeting to examine shared water resource issues in the Middle East with the International Water Resources Association and the United Nations Environment Programme (UNEP)

Annex IV

UNU FELLOWSHIPS AWARDED IN 1992

	Training institution	Subject of study	Number of fellows	Duration (months)
I.	Training courses			
	National Energy Authority (NEA) Iceland	Geothermal energy	12	6
	Instituto de Pesquisas Espaciais (INPE) (Brazil)	Remote sensing technology	8	8
	Universidade Estadual de Campinas (UNICAMP), Brazil	Science and technology policy	3	24
	Bangladesh Institute of Development Studies (BIDS) Bangladesh	Economics and quantitative techniques	5	9
II.	Individual fellowships			
	University of Berne, Switzerland	Mountain ecology	1	1.3
	Instituto Nacional de Diagnóstico, Argentina	Biotechnology	1	3
	Escola Paulista de Medicina, Brazil	Biotechnology	1	3
	Instituto de Butantan, Brazil	Biotechnology	1	3
	Universidad de São Paulo, Brazil	Biotechnology	1	3
	Universidad de Costa Rica	Biotechnology	1	3
	Centro de Investigación y de Estudios Avanzados del IPN (CINVESTAV), Mexico	Biotechnology	3	3-12
	Universidad Central de Venezuela	Biotechnology	1	3
	University College Galway, Ireland	Micro-informatics	1	6
	Dublin City University, Ireland	Micro-informatics	3	6
	University of Limerick, Ireland	Micro-informatics	1	6
	Trinity College, University of Dublin, Ireland	Micro-informatics	1	6
	Various institutions in Ireland	Micro-informatics	3	0.7
	UNU International Institute for Software Technology (UNU/IIST), Macau	Micro-informatics	1	6
	Instituto de Nutrición de Centro América y Panamá (INCAP), Guatemala	Food science and technology	2	12

Training institution	Subject of study	Number of fellows	Duration (months)
National Food Research Institute (NFRI), Japan	Food science and technology	1	12
California Pacific Medical Center, United States	Nutrition	1	9
Memorial University of Newfoundland, Canada	Nutritional immunology	1	3
Total		53	